



USER MANUAL

Advantage™ Nitrogen Generator Models:
ANS021 ANS051 ANS076 ANS123



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1. Introduction

1.1 General

The *Advantage Nitrogen System* is a product of ANS America Corporation. This manual forms an integral part of the product. The manual describes the daily operation, maintenance required and troubleshooting techniques, if necessary.

Content

Read the manual carefully before you start Operation of the Advantage Nitrogen System. Familiarize yourself with the content.

Condition of change

Only execute changes to the *ANS Nitrogen System* after explicit prior written permission by ANS America Corporation. Non-conformance to this rule, as well as any consequential damage, loss and costs are the responsibility of the owner and the user.

Information

All information in this manual, including additional drawings and technical descriptions, remains the property of ANS America Corporation and may not be used (other than for the use of this product), copied, multiplied or published to or for a third party without explicit prior written permission by ANS America Corporation.

1.2 Pictograms in this manual

In this manual the following pictograms are used:



Warning

A warning shows a hazard that can cause death or serious injury. Follow the instructions.



Caution

A caution shows a danger that can cause damage to the equipment. Follow the instructions.



Warning

Risk of death due to suffocation.



Risk of fire

Oxygen-enriched air leads to an increased risk of fire in the event of contact with inflammable products.



High pressure risk

Follow the instructions with respect to compressed gasses.



Instructions with respect to the environment.

1.3 Identification and service

The identification plate is located on the left side of the Advantage Nitrogen System and shows its characteristics. For service and technical assistance, please contact:

ANS America Corporation

1112 North Collier Boulevard

Marco Island, FL 34145

(239) 394-6099 phone

(239) 394-5388 fax

www.ans-america.com

1.4 Use in accordance with purpose

The ANS nitrogen generator is intended to make nitrogen out of normal ambient air. The system is based on gas separation membrane technology. Each different or further use will not be in conformity with this purpose. ANS America will not accept any liability for improper use. Only use this Advantage Nitrogen System in a technically perfect condition (refer to section 5.2), in conformity with the purpose as described above.

1.5 User instructions

Only properly trained personnel are allowed to work on the ANS nitrogen generator. The user must be aware of hazards related to operating the Advantage Nitrogen System and processes connected to it. The user is responsible for the safety of personnel nearby. All personnel working on the Advantage Nitrogen System must have free access to the applicable manuals.

1.6 Liability

ANS America Corporation will not accept any liability if:

- The instructions in this manual are not fully adhered to.
- Replacement parts are used which are not approved by the manufacturer.
- The system is operated incorrectly.
- The system is fed with gases other than air.
- The system is modified without notification and authorization of the manufacturer.
- Maintenance and repair are not carried out according to the instructions.

2 Health, safety and environmental aspects

2.1 General

Correct use of the Advantage Nitrogen System nitrogen generator is important for your personal safety and for trouble-free functioning. Incorrect use can cause damage to the Advantage Nitrogen System, lead to incorrect Nitrogen generation, and/or result in excess air consumption.



Warning

- Read this manual before you start the installation and begin operation of the Advantage Nitrogen System. Prevent accidents and damage to the Advantage Nitrogen System.
- Contact your supplier if you detect a problem that you cannot solve with this manual.
- Use the Advantage Nitrogen System in accordance with its purpose.
- Only service-engineers that are qualified to work on pneumatic equipment are allowed to do the installation, maintenance and repairs.
- Do not tamper or experiment with the equipment. Do not exceed the technical specifications for the Advantage Nitrogen System.

2.2 Compressed air



Warning

- Ensure that the feed air pressure can not exceed 188 psig.
- Ensure that the equipment and the attendant piping is connected correctly for the pressures required.
- Depressurize the Advantage Nitrogen System and the connected systems before you disconnect parts of the system. The sudden escape of compressed air can cause serious injury or damage.

2.3 Nitrogen and oxygen

The Advantage Nitrogen System generates nitrogen as a product. Oxygen enriched air is released as waste.



Warning

- Nitrogen can cause suffocation!
- Oxygen-enriched air leads to increased risk of fire in the event of contact with flammable products. Make sure that there is adequate ventilation at all times!
- Do not install the Advantage Nitrogen System in an area where explosive substances may be present.

2.4 Safety precautions



Warning

- Ensure there is sufficient ventilation.
- Only feed the Advantage Nitrogen System with air.
- Keep the air feed to the Advantage Nitrogen System clean and free of vapors of organic solvents and other contaminants. Do not place the Advantage Nitrogen System in a room where organic solvent vapors may be present.
- Install the peripheral equipment and piping according to all applicable local regulations. ANS America Corporation is not responsible for customer installed piping.
- Regular maintenance should be performed on the Advantage Nitrogen System to ensure proper and safe operation.
- Ensure that instructions concerning health and safety are compliant with local regulations.

2.5 Environmental aspects

The use and maintenance of the Advantage Nitrogen System does not include environmental dangers. Most parts are made of metal and can be disposed of in a manner consistent with local regulations. The packaging of the Advantage Nitrogen System is 100% recyclable.



- Make sure that instructions concerning health, safety and environment are compliant with all local regulations.
- Keep the ambient temperature between 2 - 50° C / 36 - 122° F (frost-free)
- Do not connect hot compressed air directly from a compressor to the inlet of the Advantage Nitrogen System.

3 Description of the appliance

3.1 General

The Advantage Nitrogen System separates compressed air into nitrogen and an oxygen enriched air stream. The separation system is based on Parker Filtration and Separation membrane technology. The compressed air comes from a central system or from a dedicated compressor.

3.2 Separation principle

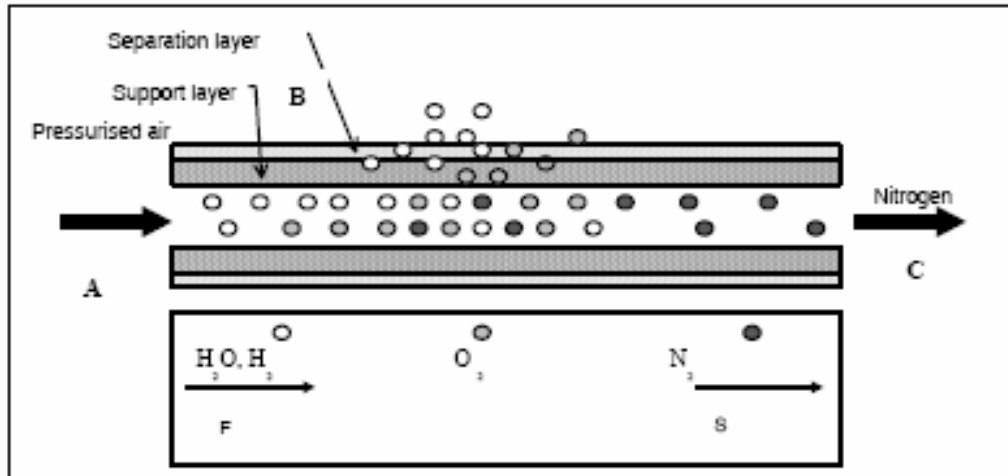


Fig. 3-1: Separation principle

A Pressurized air inlet
B Hollow fiber membrane
C Nitrogen outlet

F Fast
S Slow

Ambient air contains nitrogen (78.1%), oxygen (20.9%), argon (1%), carbon dioxide, water vapor and some traces of inert gasses. Pressurized air (A) is fed through the hollow fiber membrane (B). The various air components diffuse through the wall of the membrane.

The diffusion rate differs for the various gasses:

- Oxygen and water vapor have a high diffusion rate and permeate rapidly through the membrane wall.
- Nitrogen has a low diffusion rate and permeates slowly through the membrane wall.

At the exit of the membrane (C), pressurized nitrogen is released. The composition of the product is determined by measuring the residual oxygen content. The nitrogen content is calculated by subtracting the residual oxygen content from 100%.

The Nitrogen produce by the Advantage Nitrogen System should be stored in a storage vessel. The storage vessel acts as a buffer for the Advantage Nitrogen System and is needed for proper operation of the auto shutoff feature. The Advantage Nitrogen System shutoff feature, will switch on and off depending on the nitrogen demand. ANS America Corporation can provide the storage vessel as well as proper sizing if required.

3.3 Process parameters

The nitrogen production depends on these parameters:

Flow rate

The lower the flow rate of compressed air through the hollow fiber membrane, the more oxygen can permeate through the membrane wall. As a result, the nitrogen produced at the outlet will have a higher purity. Nitrogen purity can be adjusted upward with the flow control valve.

Note: The Flow Control Valve is sealed with a Tamper Evident Label. Please contact Technical Support if you want to increase Nitrogen purity by decreasing the flow.



Warning

Increasing the flow rate will lower the nitrogen purity. The flow rate is factory set for optimal performance.

Temperature

The Advantage Nitrogen System operates optimally at a temperature between 20 - 30°C / 68 - 86°F. Outlet purity remains stable over the rated temperature range. If the temperature increases, the pressurized air consumption will also increase. Do not place the system in a room where the temperature may rise unnecessarily high. Allow enough piping between the compressor exit and the Advantage Nitrogen System inlet so that the hot compressed gas has time to cool within the specifications listed in this manual.

Membrane pressure

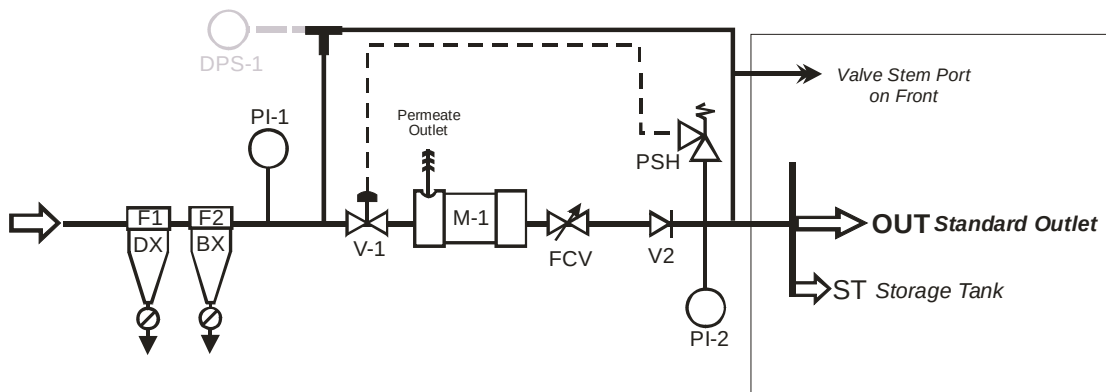
A higher membrane pressure will increase the capacity (i.e. nitrogen output) of the Advantage Nitrogen System.

Note: This will also increase N₂ purity of the system, as long as the flow control valve is not adjusted.

External pressure

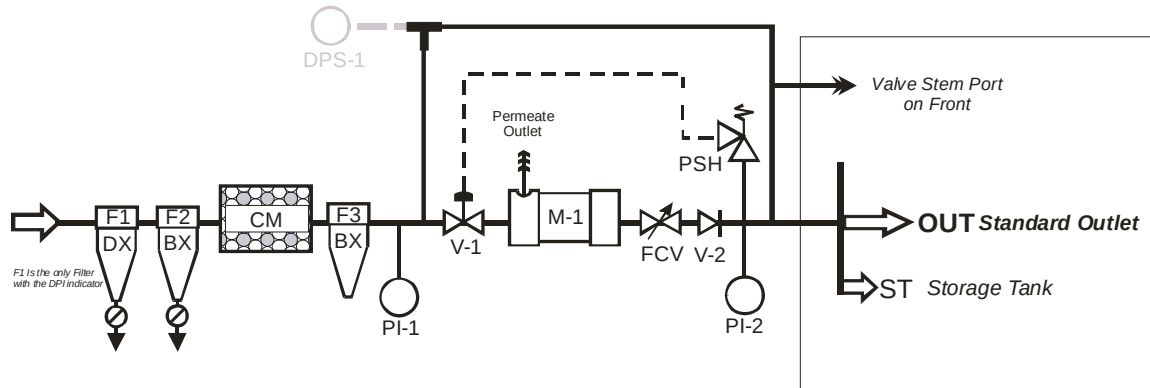
There must be atmospheric pressure at the vent or permeate outlet. The capacity of the nitrogen gas decreases strongly if the vent or permeate pressure exceeds atmospheric pressure.

MODEL ANS021



CODE	DESCRIPTION	PART NUMBER	OPERATION
PI-1	Pressure Gauge	11169-L1386	Inlet Pressure Gauge
F1	DX FILTER With DPI Indicator	B04-0291	First Stage Filtration
F2	BX FILTER	B04-0292	Second Stage Filtration
V1	Angle Seat Valve	159.003299	Shuts System off when not inflating tires
M1	Gas Separation Membrane	NA	Separates the O2 and water vapor from Compressed Air
FCV	Flow Control Valve	75582-L1386	Sets the capacity & N2 purity
V2	Check Valve	B04-0345	Isolates Downstream (Check-Valve)
PSH	Pressure Switch	B04-0333	On\Off Control Controls V1
PI-2	Pressure Gauge	11169-L1386	Outlet Pressure Gauge
DPS-1	Test Point for Test Gauge	N/A	For Service Only
ST	Nitrogen Storage Tank	Min 30gal	Buffer for Automatic Shut-Off

MODELS : ANS051, ANS076, ANS123



CODE	DESCRIPTION	PART NUMBER	OPERATION
PI-1	Pressure Gauge	11169-L1386	Inlet Pressure Gauge
F1	DX FILTER With DPI Indicator	2104N-1B1-DX-S5408	First Stage Filtration
F2	BX FILTER	2104N-0B1-BX-S5408	Second Stage Filtration
CM	Carbon Module	B04-0334	Filters out oil vapors
F3	BX Filter	8C04N-0A0-BX	Particulate Filtration
V1	Angle Seat Valve	75540-L1386	Shuts System off when not inflating tires
M1	Gas Separation Membrane	NA	Separates the O2 and water vapor from Compressed Air
FCV	Flow Control Valve	75582-L1386	Sets the capacity & N2 purity
V2	Non-Return Valve	75543-L1452	Isolates Downstream (Check-Valve)
PSH	Pressure Switch	159.003264	On\Off Control Controls V1
PI-2	Pressure Gauge	11169-L1386	Outlet Pressure Gauge
DPS-1	Test Point for Test Gauge	NA	For Service Only
ST	Nitrogen Storage Tank	Min 30gal	Buffer for Automatic Shut-Off

Advantage Nitrogen System Specifications

	ANS021	ANS051	ANS076	ANS123
Nominal Conditions				
Temperature	20 °C / 68 °F			
Ambient Pressure (O2 enriched waste stream)	1013 mbar(a) / 14.7 psig			
Max. Pressure Drop	4 psig / 0.28 bar	6 psig / 0.42 bar	8 psig / 0.55 bar	10 psig / 0.69 bar

Compressed Air Specifications				
Maximum Inlet Pressure	188psig / 13.0 Bar(g)			
Minimum Inlet Pressure	100psig / 6.8 Bar(g)			
Compressed Air Temperature Range (1)	50 - 104° F / 10 – 40°C			
Residual Oil Content	< 0.01 mg/m ³			
Particles	Filtered at 0.01 micron cut off			
Relative Humidity	< 100% (non condensing)			
Air Consumption at nominal Conditions (1)	5.5scfm	13.5scfm	20scfm	31.5scfm

Ambient Conditions				
Temperature	2 - 50° C 36 - 122° F (frost-free)			
Noise Level	Less than 45db(a)	Less than 45db(a)	Less than 45db(a)	Less than 45db(a)
Air quality	Clean without contaminants			

Dimensions and Connections				
Dimensions Stand-Alone (Wall)	58.5" H x 17 W 11" D			
Dimensions Stand-Alone (Tank Mount)	75" H x 25.5 W 31" D			
Weight Stand-Alone	200lbs			
Storage Tank (Weight)	400lbs			
Inlet Connection	½" NPT	½" NPT	½" NPT	½" NPT
Outlet Connection	½" NPT	½" NPT	½" NPT	½" NPT

Output				
Nitrogen Capacity at nominal Conditions	2.1 SCFM	5.1 SCFM	7.6 SCFM	12.3 SCFM
Purity at specified capacity (% by Volume)	95%	95%	95%	95%

(1) Temperatures lower than **68 °F / 20 °C** will result in a decrease in air consumption. Temperatures higher than **68 °F / 20 °C** will result in an increase in air consumption.

5. Pre-Installation Requirements

Follow the sections in this chapter to install the Advantage Nitrogen System.

5.1 Transport



Warning

- Put the Advantage Nitrogen System in the original box to transport it over longer distances.
- For qualifications of installation personnel, refer to section 2.1.

5.2 Define location

1. Advantage Nitrogen System should be installed in a fixed location. The location must meet following requirements:

- Indoors.
- Dry.
- Vibration free.
- No continuous, direct sunlight.
- Away from heat sources.
- Properly ventilated room.
- Easy accessibility for operation and service. See required foot print

Perform the complete installation procedure again if you move the Advantage Nitrogen System to a new location.

5.3 Unpack and check equipment (refer to section 5.3.1)

1. Open the packaging.
 2. Insure that all components are delivered.
 3. Insure that the available compressed air meets specification:
 - Oil content of the compressed air is below 0.01mg/m^3 .
 - If the Advantage Nitrogen System is connected to a house air system: ensure that the compressed air pressure and quality is always as prescribed. The capacity must be sufficient.
- If the Advantage Nitrogen System is connected to a stand-alone compressor: ensure that the compressor works properly. Refer the instructions of the compressor manufacturer. Ensure that the after cooler and the water separator of the compressor work correctly.
 - If installed, ensure that the pressurized air dryer is of proper size and that it is in working order.

5.3.1 Parts Checklist

a. Items included in the package:

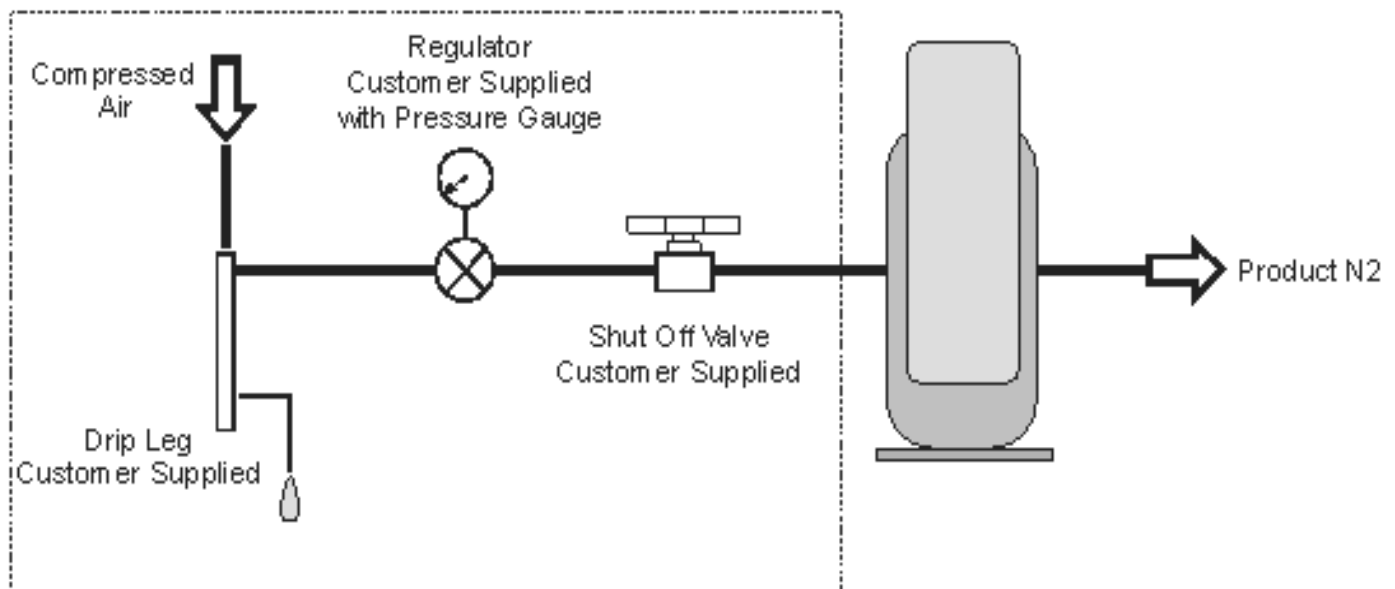
1. Advantage Nitrogen System nitrogen generator (wallmount or floorstanding).
2. Installation and operation manual.
3. Nitrogen Storage Tank (ST) Floor Mount Only. Tank has pressure relief valve located on top – DO NOT REMOVE or ADJUST.

b. Customer supplied materials:

1. Storage tank (wall mount).
2. Shut-off valve with inlet regulator.
3. Drip leg with manual or automatic drain.
4. Tire inflation hose & chuck.

5.3.2 Items Required by Customer for Proper Installation.

WALL or FLOOR mounted:



Customer pre-installation requirements:

- Drip leg with a manual or an automatic drain.
- Regulator with a pressure gauge.
- Shut-off valve.

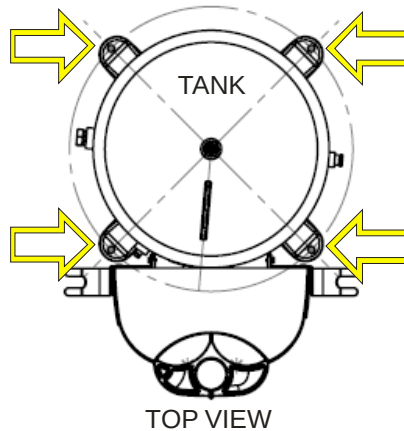
1. House or compressed air source, meeting Advantage Nitrogen System requirements (see specifications). The inlet connections are $\frac{1}{2}$ "NPT for all models
2. Outlet connection from Advantage Nitrogen System Generator, on standard base units only. $\frac{1}{2}$ " NPT
3. Teflon pipe seal tape or other suitable thread sealant for the NPT thread connections.
4. It is required for the Advantage Nitrogen System floor model to be bolted to the floor if removed from pallet. If left on pallet, make sure floor is level.



Caution: Ensure Advantage Nitrogen System is properly secure and bolted to the floor if removed from pallet. If system left on pallet insure it's placed on a leveled floor.

- 1 Floor model can be left on pallet or
- 2 Bolt to Floor or Wall.

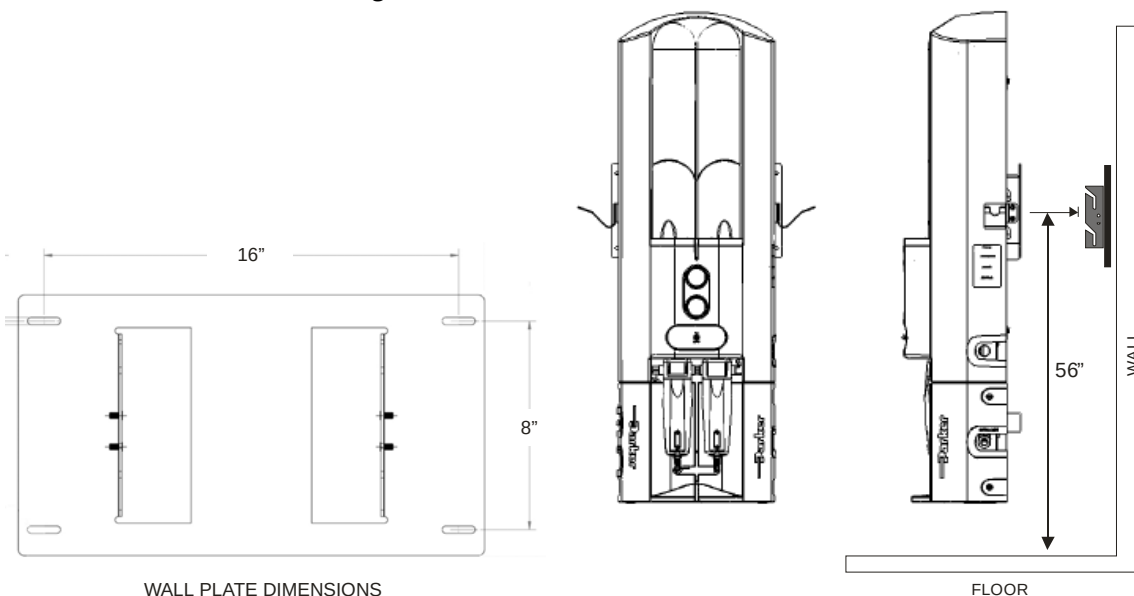
- a. Bolt to floor by securing four 3/8" bolts (not supplied) to the four mounting holes located on the tank's feet. Position the generator in the desired location, mark hole pattern and drill holes for anchoring the 3/8" bolts (see following illustration)



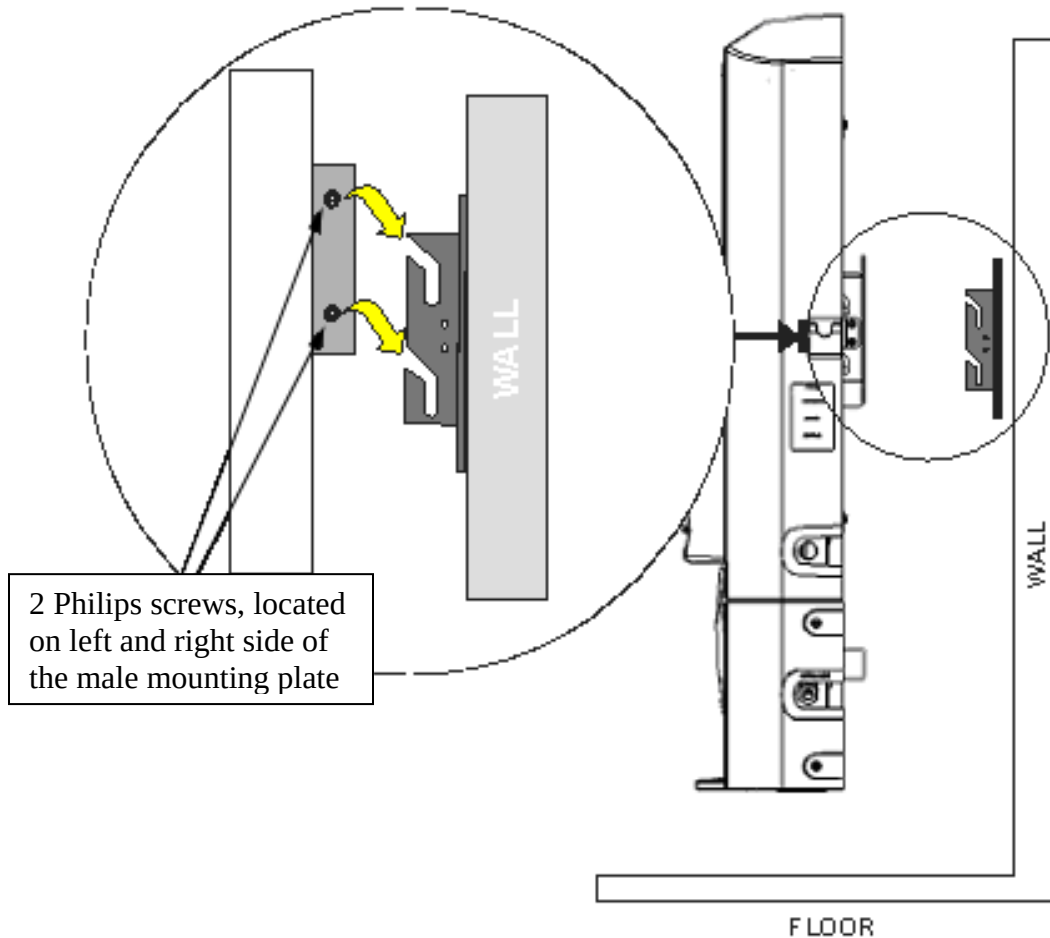
5. Wall Mount Instructions

- a. For wall mounts systems: Secure the following plate to a concrete wall, concrete block wall or drywall with studs, either metal or wood. Secure plate to wall with four 1/4" bolts or screws (not supplied).
- b. Mount Wall mount bracket roughly around 51" from floor to center of bracket. As shown below.

NOTE: It is the customer's responsibility to ensure that the wall mounting is strong enough to prevent any injury or damage to the Advantage Nitrogen System and complies with all local ordinances and building codes.



6. Securing the Advantage Nitrogen System to Mounting Plate.
- Loosen the four screws located on the male plate on the Advantage Nitrogen System.
 - Carefully Drop in system onto the Wall plate as shown below, and lock the four Philips screws as shown below.



7. It is recommended to install a drip leg on the inlet side of the system to catch loose particles and liquid water in the piping system. Consult a local plumber for assistance if needed.

5.4 INSTALLATION:

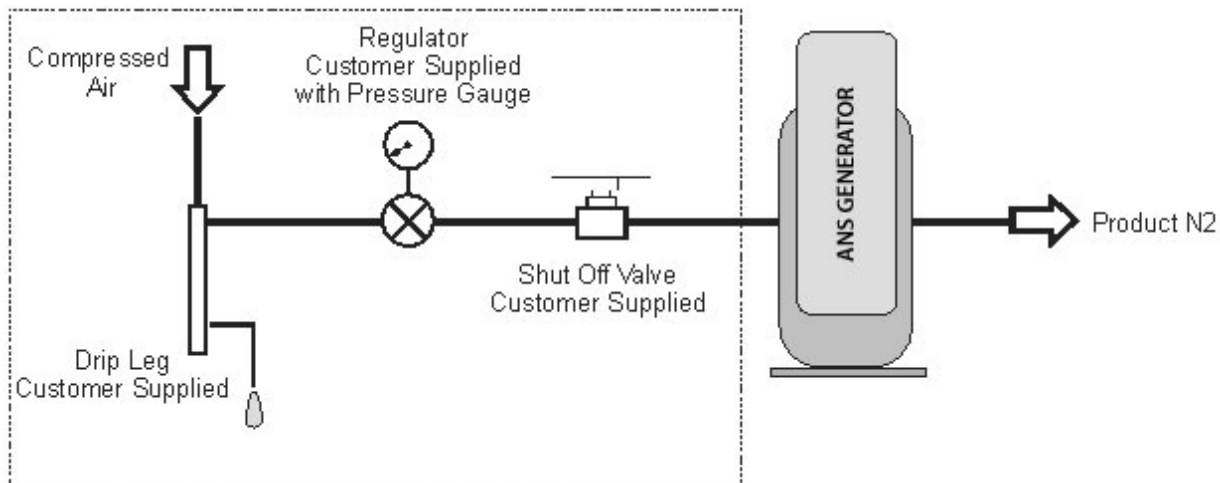
STEP 1 Connect Inlet Connection:



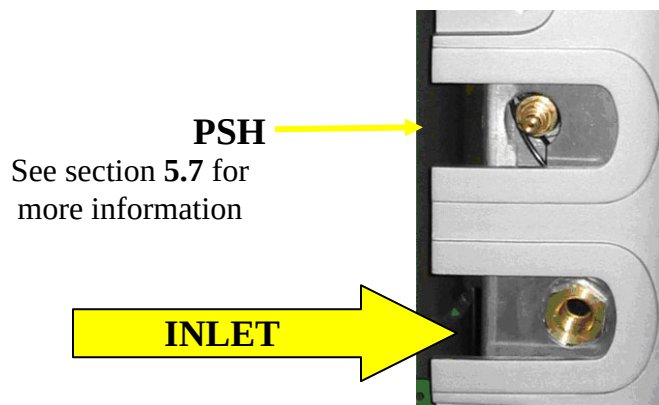
Warning

- Make sure that the inlet and pipe are free of dust, particles, metal parts and curls, liquids and grease before you connect the Advantage Nitrogen System.
1. Ensure that a drip leg is installed and equipped with a drain system. Drain out drip leg as needed to prevent any water getting into the inlet of the Advantage Nitrogen System.
 2. Install shut-off valve and regulator as shown below.

NOTE: Ensure that these components are as close to the inlet of the Advantage Nitrogen System as possible.



3. Connect the compressed air supply into the inlet of the Advantage Nitrogen System ($\frac{1}{2}$ " connection), left hand side of generator.



4. Ensure that this connection is fully tightened.

5. STEP 2. Connecting the Outlet Connections

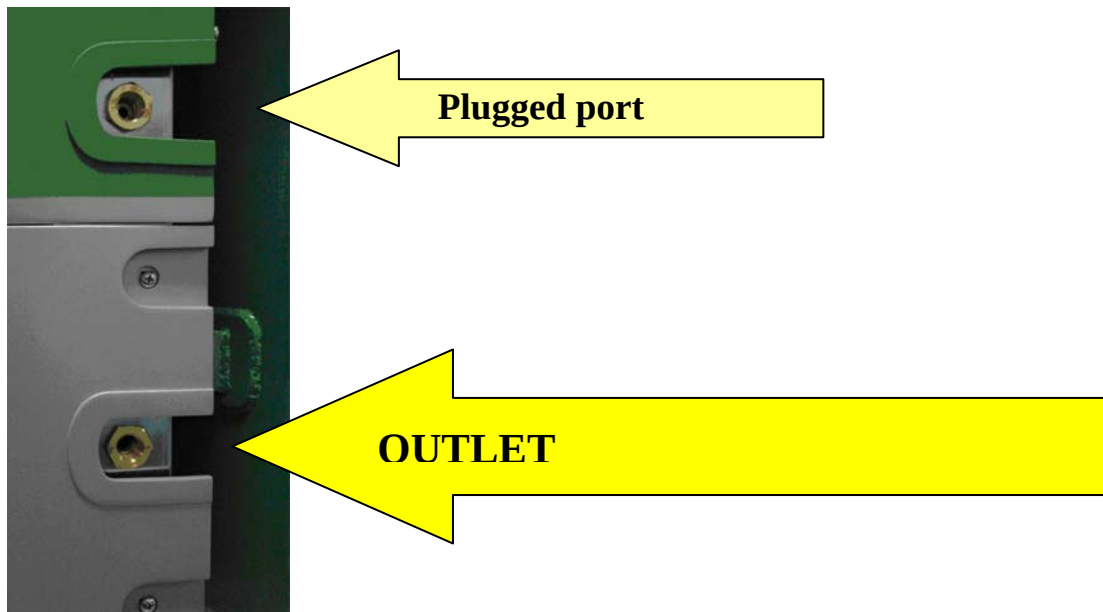
- WALL: Step 2a
- FLOOR: Step 2b

Advantage Nitrogen System Options Chart

Advantage Nitrogen System Option	FLOOR MOUNT	WALL MOUNT
Storage Tank (ST)	X	

STEP 2a. Connecting the Outlet Connections (Wall Unit)

1. Connect Outlet to a Storage Tank, right hand side of generator.
2. Connect a Tire Inflation hose (not Included) to the Outlet of the Storage tank.
3. Go to Section 6 for Start-Up.



STEP 2b. Connecting the Outlet Connections (Floor Mount)

1. Connect the tire inflation hose to the outlet of the Advantage Nitrogen System (right side).
2. Go to section 6 for start-up.

5.5 Adjusting the pneumatic pressure switch

The pressure switch (PSH) is factory preset such that the Advantage Nitrogen System switches off when there is no consumption, and that it switches back on when there is consumption of nitrogen.

Note that the pressure switch will always leak a small amount of air.

Note: All Advantage Nitrogen System models are set at 130 psig.



Important

If operation is required at storage condition other than factory set point. Adjusting the pressure switch set point is **required** for proper operation.

- If the switch set point is set too high, the supply will never turn off, and the compressor will run constantly.
- If it is set too low, the Advantage Nitrogen System will not take advantage of all of the pressure available from your compressed air supply. The system will operate reliably, just not at maximum capacity and pressure.

Upon commissioning the system, allow the system to run so that the storage tank fills. After a period of time, the nitrogen storage pressure should stop rising, the system turns off, and there is no more demand for air from your compressor.

If the compressor/system does not shut off, the pressure switch is set too high and the set point on the pressure switch needs to be **reduced** so the system turns off.

If the compressor shuts off as expected, there may be an opportunity to increase the performance of your system. If your compressor is capable of high PSI/CFM you may want to try to **increase** the set point on the pressure switch set. This will increase the pressure of nitrogen in the storage tank that is available for filling tires.



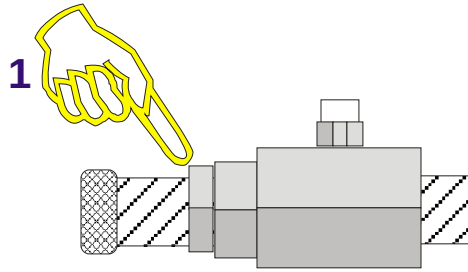
Warning

Never set the pressure switch so that the technical specifications of the Advantage Nitrogen System are exceeded; this can cause serious injury and/or damage (see Chapter 4.1 for specifications). The maximum pressure set point in the tank is 188 psig.

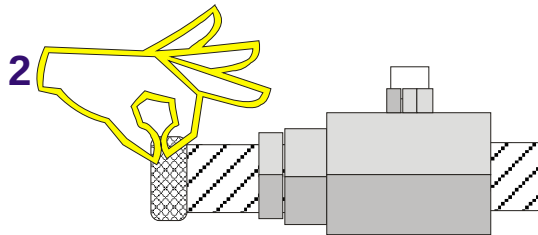
DO NOT EXCEED THIS PRESSURE.

Adjust the pressure switch as follows:

1. Loosen lock-nut 1.



2. The set point for the pressure switch can be increased by turning the pressure rod at the finger grip clockwise and decreased by turning it counter-clockwise. Be careful with turning the pressure rod counter-clockwise. If you loosen too much the pressure rod could back all the way out. When decreasing the pressure set point, turn the pressure rod counter clockwise until the system turns off, and then turn counter clockwise another $\frac{1}{4}$ of a turn to ensure the compressor will shut off.



3. The differential screw does not need adjustment. Erroneous setting causes the pressure switch to pop repeatedly. Should its setting be changed erroneously, reset it as follows.
 - A. Loosen lock-nut 2.
 - B. Turn the differential screw clockwise until it can go no further and turn it counter-clockwise $\frac{1}{4}$ turn.
4. Retighten all locknuts, being careful not to twist pressure rod. Once the set point is adjusted, it is important to **test the system** as follows. Allow some nitrogen to vent from the storage vessel (e.g. open a valve slowly) until the compressor/system turns back on. Close the vent source, and see if system turns off. If so, the set point is adjusted correctly, retighten lock nut on adjustment screw. If the compressor/system does not shut off, you will need to lower the set point slightly until the compressor/system shuts off.

It is recommended to repeat this test 3 times to ensure that the set point on the pressure switch is set correctly.

6 Operation

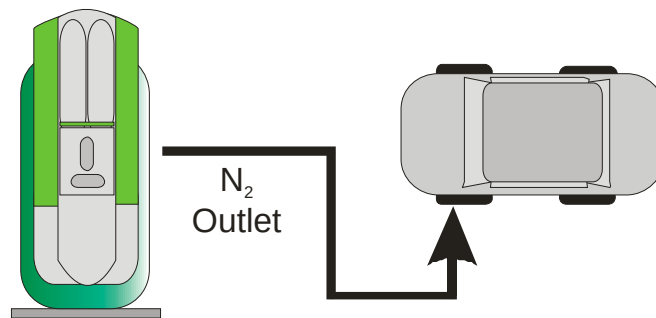
6.1 Start-up of Advantage Nitrogen System

1. Open the compressed air supply.
2. Set inlet pressure per specification.
3. Allow Tank to Fill.

NOTE: If given purities are not achieved, drain tank, and retake steps 6.1.1 through 6.1.5 until readings are achieved.

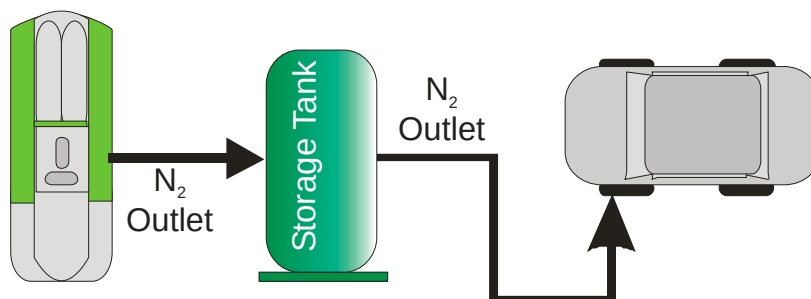
6.2 Operating the Advantage Nitrogen System

6.2.1. Floor mount model



1. Hook up the outlet connection to tire.
2. Inflate in the same manner as air.
3. Check pressure during fill.

6.2.2. Wall mount model



4. Hook up the following outlet connection to tire.
5. Inflate in the same manner as air.
6. Check pressure during fill.

6.3 Stop operation of Advantage Nitrogen System

1. Shut off the compressed air supply before you perform maintenance.
2. Depressurize the system by venting the nitrogen outlet.
3. Ensure that the system is fully depressurized by checking the pressure gauge.



TIP: should the filters not be fully depressurized it is possible to depressurize them manually by slowly unscrewing the bleed screw on the bottom of the filter bowl on one of the filters. Prior to reinstalling the bleed screw after venting, ensure the o-ring is seated properly. It may be necessary to vent the filters all the way down to atmospheric pressure so that the o-ring will seat.

7. Maintenance:

Maintenance Kit	Part Number	Change Frequency
ANS021 (Filter F1 , Filter F2)	MKANS021	1 Year
ANS051, ANS076, ANS123 (Filter F1 , Filter F2 , Carbon Filter C1 , Filter F3)	MKANS123	1 Year

Table 7-1: Maintenance scheme

Spare Parts List	Part Number
Inlet / Outlet Pressure Gauge	11169-L1386
Pressure Switch Assembly	B04-0333
Replacement Bowl/Drain Assembly	C02-2384
Check Valve	B04-0345
Pressure Relief Valve	B02-0434

Table 7-2: Spare Parts List

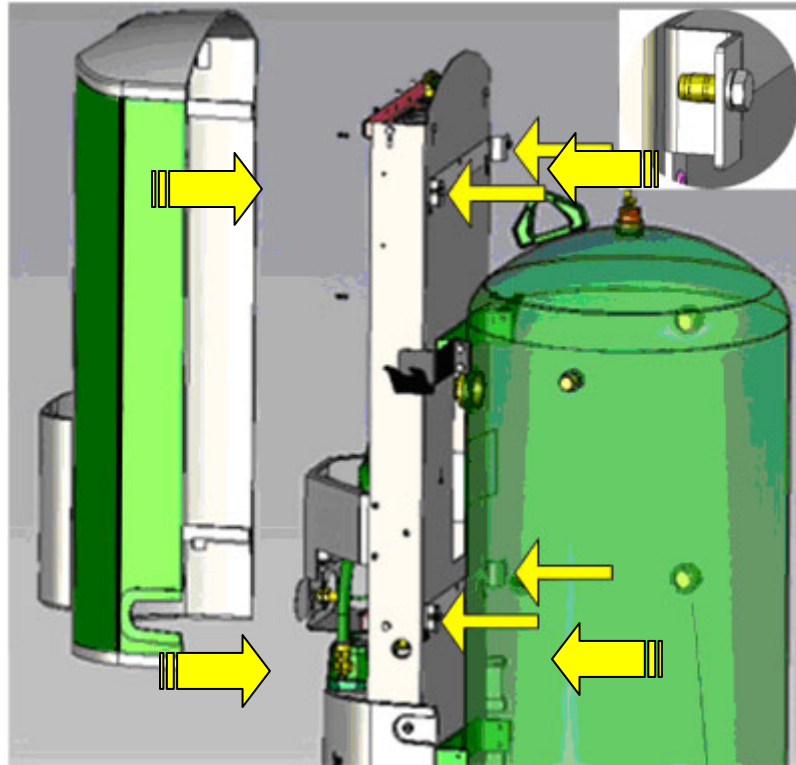
7.1 Removing Top Front Access Panel

NOTE: This is required in order to replace the dust filter and carbon module.

CAUTION: Ensure air supply is shut off and the system is not pressurized.



1. Located on the back of the system there are (qty. 4) 7/16" hex bolts that secure the Top Front Access Panel to the unit.



Screws are located on the back side of the system

Fig. 7-1

7.2 Replace filter element

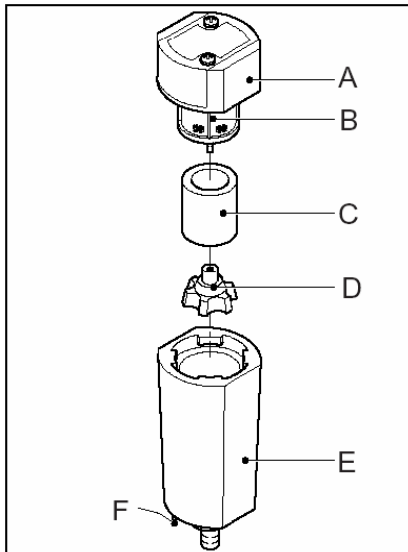


Fig. 7-2: Replace filter element

1. Turn off the air supply.
2. Let the system depressurize until the pressure gauge at (Fig. 3.4.1 or 3.4.2 PI1) reads 0 psi.
3. Unscrew the bleed screw (F) slowly to ensure that the filter is depressurized.
4. Turn the filter bowl (E) counter-clockwise and pull the bowl from the filter housing (A).
5. Unscrew the blue knob (D).
6. Remove the old filter element(C).
7. Clean the sieve (B) and the filter house, if necessary.
8. Install a new filter element (C).
9. Assemble the parts in the reverse order.

7.3 Clean automatic drain

1. Open the filter by untwisting the bowl $\frac{1}{4}$ turn counter-clockwise.
2. Unscrew the nut (F).
3. Remove the drain unit (B-E) from the filter bowl (A).
4. Remove the O-ring (E).
5. Carefully pull the floating house (B) from the seat (D). Do not bend the needle (C).
6. Clean the parts with soap and water. Make sure that the needle bore is open and clean.
7. Assemble the parts in the opposite direction. Make sure that the parts are dry before reassembly.

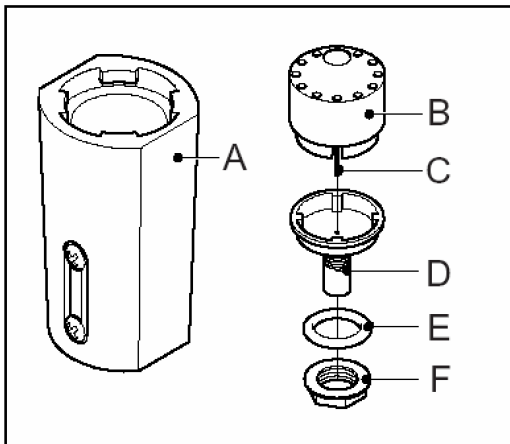


Fig. 7-3: Clean drain filter

The filter drains are easily cleaned. Simply remove the bowl from the filter assembly and rinse with soap and water.

7.4 Replace Carbon Bed

Not required for the ANS021

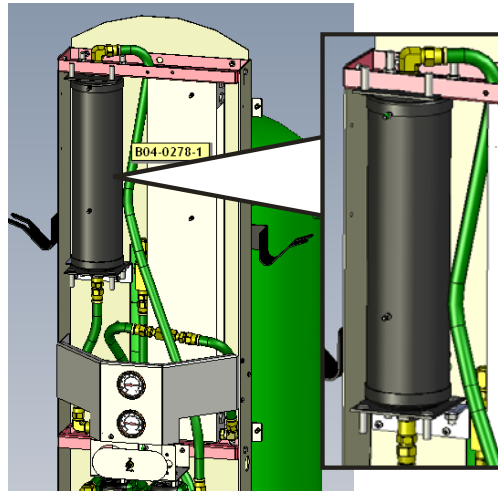


Fig. 7-4: Carbon Module Location

1. To remove the carbon module loosen the JIC $\frac{1}{2}$ " compression fittings with an adjustable wrench. See image below for locations (Top and Bottom)

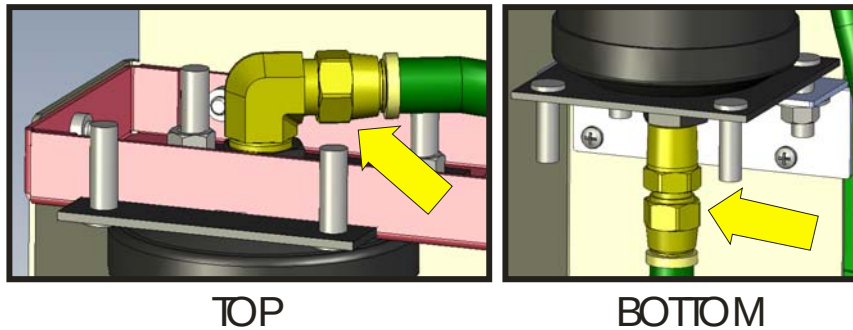


Fig. 7-5

2. Using a deep socket ratchet, remove the two $\frac{9}{16}$ " bolts that secure the top part of the module.

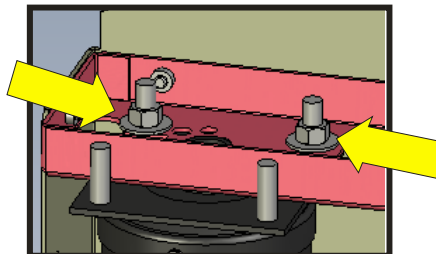


Fig. 7-6

3. While holding the carbon module with one hand, carefully unscrew the two Philips screws that secure the bottom part of the module.

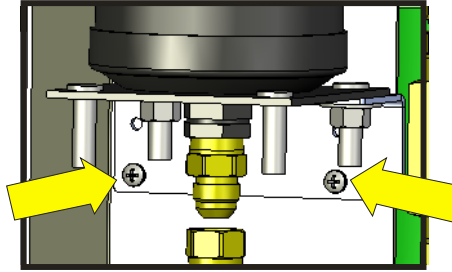


Fig. 7-7

4. To remove module, drop and rotate this module to gain the clearance of the elbow fitting.

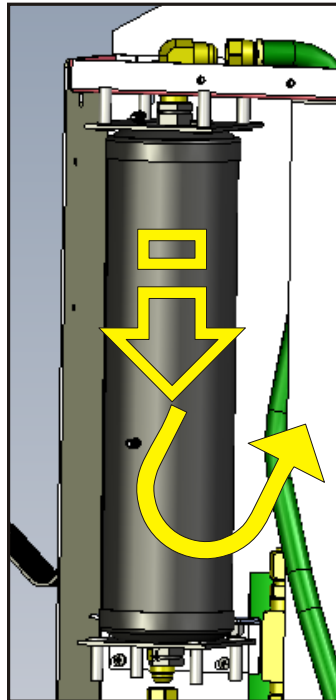
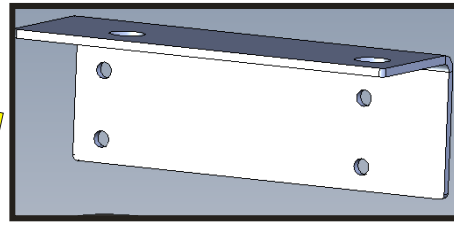
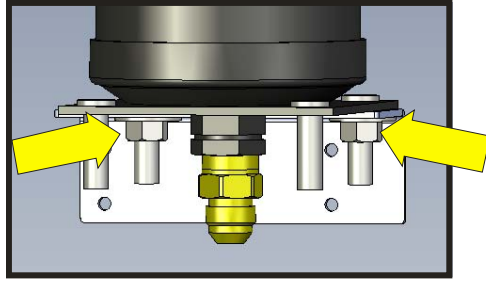


Fig. 7-8

5. Remove bracket from carbon module. Save bracket, nuts and washers and assemble them back onto the replacement module.



Save Bracket,
nuts and washers

Fig. 7-9

6. Follow the previous steps to reinstall carbon module.

7.5 Replace Particulate Filter (F3)

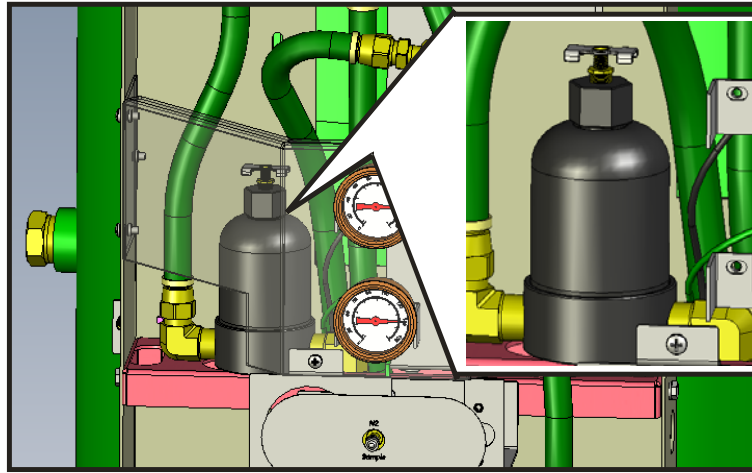


Fig. 7-10

1. Using a 1" adjustable wrench, unscrew the filter's bowl assembly as shown below, and then lift off bowl.

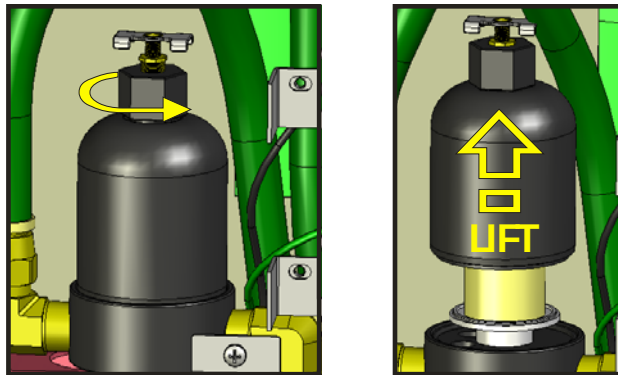


Fig. 7-11

2. Unscrew the filter element retainer and remove and replace filter element, and then reinstall and tighten filter bowl back onto filter assembly.

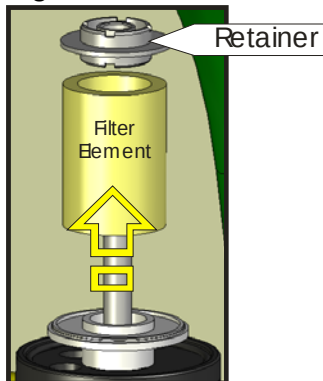


Fig. 7-12

8 Troubleshooting

Error	Possible Cause	Possible Solution
Delivery of nitrogen too low or absent	Compressed air supply too low	Check/increase the air supply.
	Check/increase the air supply.	Lower the temperature, if possible.
	Compressed air temperature is too high	Lower the temperature, if possible.
	Air filters are polluted	Change the air filters.
	Leak in piping	Check for leaks in piping; repair.
	Automatic drain is continuously open	Check the automatic drain.
	Nitrogen outlet line is blocked.	Check/open the outlet line.
	Blockage	Check the compressed air delivery to the compressor.
Advantage Nitrogen System does not automatically switch off		
	Feed pressure too low	Increase feed pressure; adjust setpoint of pressure switch.
	Ambient temperature is too high	Lower the temperature, if possible.
	Compressed air temperature is too high	Lower the temperature, if possible.
	Air filters are polluted	Change or clean the air filters.
	Leak in piping	Check for leaks in the piping; repair.
	Nitrogen outlet is open	Close outlet.
	Automatic drain is continuously open	Check the automatic drain.



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